APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,268	07/15/2003	Christopher B. Weare	MSFT120706	9721

26389 7590 06/29/2005	EXAMINER	
CHRISTENSEN, O'CONNOR, JOHNSON, KINDNESS, PLLC	SUAREZ, FELIX E	
1420 FIFTH AVENUE	ART UNIT	PAPER NUMBER
SUITE 2800	2857	
SEATTLE, WA 98101-2347		

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/621,268	WEARE, CHRISTOPHER B.
	Examiner	Art Unit	
	Felix E. Suarez	2857	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>29 April 2005</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☐ Claim(s) <u>1-3,5,10,12-15,20-23 and 25, 28-45</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-3,5,10,12-15,20-23,25,28-35,38-40,43 and 45</u> is/are rejected.

7) ☒ Claim(s) <u>36,37,41,42 and 44</u> is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>15 July 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described
as set forth in section 102 of this title, if the differences between the subject matter sought to
be patented and the prior art are such that the subject matter as a whole would have been
obvious at the time the invention was made to a person having ordinary skill in the art to which
said subject matter pertains. Patentability shall not be negatived by the manner in which the
invention was made.

1.   Claims 1-3, 5, 10, 12-15, 20-23, 25, 28-35, 38-40, 43 and 45,

are rejected under 35 U.S.C. 103(a) as being unpatentable over Herz

(U.S. Patent No. 6,029,195) in view of Agrafiotis et al. (U.S. Patent No.

6,421,612).

With respect to claim 1 Herz teaches in a computer system, a

method for providing recommendations of items to a user, the method

comprising:

evaluating the items in accordance with sets of parameters (see

col. 13, lines 8-29 and col. 31, lines 21-41);

recommending selected items to a user based on the evaluation of

the items (see col. 7, lines 19-51) ;

receiving from the user feedback regarding the recommendations

(see col. 18, lines 9-28); and

adjusting the sets of parameters based on the feedback (see col.

18 line 54 to col. 19 line 7and col. 22, lines 14-58),.

Herz does not teach, wherein a genetic algorithm is utilized for adjusting the sets of parameters.

But Agrafiotis et al. (hereafter Agrafiotis) teaches that in a process of minimizing the Prediction Error is referred to as Training. Preferably, the Trainer minimizes the Prediction Error using a search/optimization method such as, Genetic Algorithm (see Agrafiotis; col. 13, lines 14-30).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Herz to include a Genetic Algorithm method as taught by Agrafiotis, because such a Genetic Algorithm would have allowed a controller to adjust set parameters.

With respect to claim 2, Herz in combination with Agrafiotis teaches all the features of the claimed invention, and Herz further teaches that, the feedback from the user is in the form of user ratings of the recommendations (see Herz; col. 22 line 59 to col. 23 line 10).

With respect to claim 3, Herz in combination with Agrafiotis teaches all the features of the claimed invention, and Herz further teaches that, the evaluation of the items includes determining affinity values for the items (see Herz; col. 8, lines 32-47).

With respect to claim 5, Herz in combination with Agrafiotis teaches all the features of the claimed invention, and Herz further teaches that,

other items that have been selected by the user as favorites are utilized as

references for the evaluation of the items (see Herz; col. 19, lines 29-65).

With respect to claim 10, Herz teaches a computer readable

medium having computer-executable components for providing

recommendations to a user, the computer-readable medium comprising:

a recommendation component for providing the recommendations

to a user (see col. 7, lines 19-51);

a performance component for monitoring the performance of the

recommendations (see col. 18, lines 9-28 and col. 68, lines 22-57); and

a parameter component for adjusting parameters based on the

performance of the recommendations (see col. 18 line 54 to col. 19 line 7

and col. 22, lines 14-58).

Herz does not teach, wherein the parameter component utilizes a

genetic algorithm.

But Agrafiotis et al. (hereafter Agrafiotis) teaches that in a process

of minimizing the Prediction Error is referred to as Training. Preferably, the

Trainer minimizes the Prediction Error using a search/optimization method

such as, Genetic Algorithm (see Agrafiotis; col. 13, lines 14-30).

It would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify Herz to include a Genetic

Algorithm method as taught by Agrafiotis, because such a Genetic

Algorithm would have allowed the adjustment of set parameters.

With respect to claims 12 and 28, Herz in combination with Agrafiotis teaches all the features of the claimed invention, and Herz further teaches that, the algorithm executes unworthy parameter sets based on the performance of the recommendations (see Herz; col. 19, lines 42-64).

With respect to claims 13 and 29, Herz in combination with Agrafiotis teaches all the features of the claimed invention, and Herz further teaches that, the algorithm generates new parameter sets from the surviving population (see Herz; col. 20, lines 32-49 and col. 30, lines 46-65).

With respect to claim 14, Herz in combination with Agrafiotis teaches all the features of the claimed invention, and Herz further teaches comprising an affinity predictor for calculating the expected affinity values of the items (see Herz; col. 22, lines 48-58).

With respect to claims 15 and 32, Herz in combination with Agrafiotis teaches all the features of the claimed invention, and Herz further teaches comprising a recommendation table component to which the recommendation component writes the recommendations, the

recommendations being loaded for the; user, from the recommendation table component (see Herz; col. 46 line 62 to col. 47 line 47).

With respect to claim 20, Herz teaches a system fur providing recommendations to a user, the system comprising:

an affinity predictor for receiving information regarding items and determining affinity values for the items, the affinity values being determined according to sets of parameters, the affinity values being used to provide recommendations to the user (see col. 22, lines 48-58 and col. 30, lines 21-37); and

a parameter controller for adjusting the sets of parameters in accordance with feedback from the user regarding the recommendations (see col. 15, lines 13-33 and col. 22, lines 14-58).

Herz does not teach, wherein the parameter controller utilizes a genetic algorithm.

But Agrafiotis et al. (hereafter Agrafiotis) teaches that in a process of minimizing the Prediction Error is referred to as Training. Preferably, the Trainer minimizes the Prediction Error using a search/optimization method such as, Genetic Algorithm (see Agrafiotis; col. 13, lines 14-30).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Herz to include a Genetic Algorithm method as taught by Agrafiotis, because such a Genetic Algorithm would have allowed a controller to adjust set parameters.

With respect to claim 21, Herz in combination with Agrafiotis teaches all the features of the claimed invention, and Herz further teaches comprising a performance monitor, which harvests recommendation performance information from the user (see Herz; col. 68, lines 22-57).

With respect to claim 22, Herz in combination with Agrafiotis teaches all the features of the claimed invention, and Herz further teaches comprising a recommendation factory which selects items that have the highest expected affinity levels as determined by the affinity predictor (see Herz; col. 19, lines 42-64).

With respect to claim 23, Herz in combination with Agrafiotis teaches all the features of the claimed invention, and Herz further teaches comprising a recommendation table to which the recommendation factory writes the recommendations to, the recommendations being loaded for the user from the recommendation table (see Herz; col. 20, lines 49-65).

With respect to claim 25, Herz teaches a computer-readable medium having computer-executable components for providing recommendations of items to a user, the computer-readable medium comprising:

an affinity predictor component fir determining affinity values for

items based on sets of parameters (see Herz; col. 22, lines 48-58 and

col. 30, lines 21-37);

a recommendation factory component for providing

recommendations to a user (see col. 7, lines 19-51);

a performance monitor component for monitoring the performance

of the recommendations, the performance of the recommendations being

used to adjust the sets of parameters (see col. 18, lines 9-28 and col. 68,

lines 22-57); and

a parameter controller component which receives data from the

performance monitor regarding the performance of the recommendations,

and in response thereto generates sets of parameters for use by the

affinity predictor (see col. 15, lines 13-33 and col. 22, lines 14-58).

Herz does not teach, wherein the parameter controller utilizes a

genetic algorithm.

But Agrafiotis et al. (hereafter Agrafiotis) teaches that in a process

of minimizing the Prediction Error is referred to as Training. Preferably, the

Trainer minimizes the Prediction Error using a search/optimization method

such as, Genetic Algorithm (see Agrafiotis; col. 13, lines 14-30).

It would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify Herz to include a Genetic

Algorithm method as taught by Agrafiotis, because such a Genetic

Algorithm would have allowed a controller to adjust set parameters.

With respect to claim 30, Herz in combination with Agrafiotis teaches all the features of the claimed invention, and Herz further teaches that after a sufficient number of iterations the sets of parameters settle toward optimal values (see Herz; col. 21 line 65 to col. 22 line 13 and col. 22, lines 45-58).

With respect to claim 31, Herz in combination with Agrafiotis teaches all the features of the claimed invention, and Herz further teaches comprising an affinity predictor component for calculating the expected affinity values of items (see Herz; col. 22, lines 48-58 and col. 30, lines 21-37).

With respect to claim 33, Hez in combination with Agrafiotis teaches all the features of the claimed invention, except that Herz does not teach that a fitness evaluation stage is utilized during which the fitness of each parameter set is evaluated.

But Agrafiotis teaches in the (Genetic Function Approximation) GFA algorithm, a Structure-Property Model is represented as a linear string that encodes the features and basis functions employed by the model. A population of linearly encoded Structure-Property Models is then initialized by a random process, and allowed to evolve through the repeated application of genetic operators, such as crossover, mutation and

selection. Selection is based on the relative fitness of the models, as measured by a least-squares error procedure (see Agrafiotis; col. 14, lines 42-60).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Herz to include GFA algorithm as taught by Agrafiotis, because the GFA algorithm of Agrafiotis allows a selection based on the relative fitness of the models.

With respect to claim 34, Hez in combination with Agrafiotis teaches all the features of the claimed invention, and Agrafiotis further teaches that, the results of the fitness evaluation are further utilized in a mating stage which determines the mating of the parameter sets (see Agrafiotis; col. 21 line 55 to col. 22 line 5).

With respect to claim 35, Hez in combination with Agrafiotis teaches all the features of the claimed invention, and Agrafiotis further teaches that, when two parameter sets mate, a resulting parameter set contains elements from each of the original parameter sets (see Agrafiotis; col. 21 line 55 to col. 22 line 5).

With respect to claim 38, Herz in combination with Agrafiotis teaches all the features of the claimed invention, and Herz further teaches that, an initial population of parameter sets is created using known values (see Herz; col. 43, lines 10-21).

With respect to claim 39, Hez in combination with Agrafiotis

teaches all the features of the claimed invention, and Herz further teaches

that, an initial population of parameter sets is created through a random

process (see Herz; col. 43, lines 10-21).

With respect to claims 40 and 45, Hez in combination with

Agrafiotis teaches all the features of the claimed invention, except that

Herz does not teach that, a mutation stage is utilized during which

mutated parameter sets are created.

But Agrafiotis teaches in the (Genetic Function Approximation) GFA

algorithm, a Structure-Property Model is represented as a linear string that

encodes the features and basis functions employed by the model. A

population of linearly encoded Structure-Property Models is then initialized

by a random process, and allowed to evolve through the repeated

application of genetic operators, such as crossover, mutation and

selection (see Agrafiotis; col. 14, lines 42-60).

It would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify Herz to include GFA algorithm

as taught by Agrafiotis, because the GFA algorithm of Agrafiotis allows

creation of mutation parameter sets, as desired.

Herz

With respect to claim 43, Herz in combination with Agrafiotis

teaches all the features of the claimed invention, except that Herz does

not teach, comprising a mating component for determining the mating of

parameter sets.

But Argofiotis teaches that in particular, the Fuzzy Interference

Module performs the step of calculates the firing strength of each rule

based on the degree of match of the fuzzy sets computed and the

connectives used in the antecedent part of the fuzzy rule (see Agrafiotis;

col. 21 line 60 to col. 22 line 5).

It would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify Herz to include Fuzzy

Interference Module as taught by Agrafiotis, because the Fuzzy

Interference Module of Agrafiotis allows to calculates the firing strength of

each rule based on the degree of match of the fuzzy sets, as desired.

Allowable Subject Matter

2.   Claims 36, 37, 41, 42 and 44, are objected to as being

dependent upon a rejected base claim, but would be allowable if rewritten

in independent form including all of the limitations of the base claim and

any intervening claims.

3.   The following is a statement of reasons for the indication of

allowable subject matter:

Claims 36 and 37, would be allowable over the prior art for at least

the reason that the prior art fail to teach or suggest that, the results of the

fitness evaluation are further utilized in a survival stage which determines

the survival of each of the parameter sets.

Claims 41 and 42, would be allowable over the prior art for at least

the reason that the prior art fail to teach or suggest that a floating point

genes are utilized by the genetic algorithm.

Claim 44 would be allowable over the prior art for at least the

reason that the prior art fail to teach or suggest comprising an executing

component for executing parameter sets that are determined to be

undesirable.

Response to Arguments

4.   This action is responsive to papers filed 04/29/2005.

5.   Applicant's arguments with respect to claim have been

considered but are moot in view of the new ground(s) of rejection

presented hereinbefore.

Conclusion

Prior Art

6.   The prior art made of record and not relied upon is

considered pertinent to applicant's disclosure.

Catan [U.S. Patent No. 6,758,397] describes a highly relevant

information or process relating, to an article to which a machine-readable

label device is attached.

Gutta et al. [U.S. Patent Application Publication No. 2003/0066068]

describes a system to provide a user's preference profile based on the

preference of others.

Thompson [U.S. Patent Application Publication No. 2004/0210661]
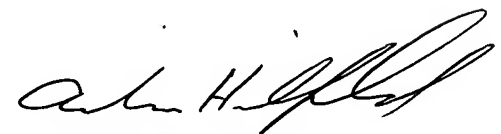
describes a method of profiling, matching and optimizing performance

among large networks of people.

7.   Any inquiry concerning this communication or earlier

communications from the examiner should be directed to Felix Suarez,

whose telephone number is (571) 272-2223. The examiner can normally

be reached on weekdays from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Marc Hoff can be reached on (571) 272-2216. The

fax phone numbers for the organization where this application or

proceeding is assigned is 703-872-9306 for regular communications and

for After Final communications.

June 23, 2005

F.S.

ANDREW H. HIRSHFELD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800